Subject index

A_1 transition 274
AC gyroscope 121
A–B interface 73, 168
A–B phase boundary 158, 160
Abelian Higgs model 42
Absolute gyrometer 309
Anderson's scenario 318
Andreev scattering 158, 304
Anomalous magnetic relaxation 181
Anyons 35
Atomic hydrogen 129
Axi-planar state 266
Axial state 266

β parameters 266
Bose–Einstein condensation 121
Boson stars 24
Bound excitations 158
Boundary conditions 168

Catastrophe theory 24
Charge coupled device (CCD) 352
Chern–Simons term 280
Coaxial cylinders 149
Comparison of experiment and theory 266
Computer simulation 318
Conserving Hartree approximation 35
Cosmic strings 42, 47
Cosmology 42, 56
Counterflow 187
Counterflow velocity 149
Critical flow velocity 83, 90
Critical velocity 76, 294

Diffuse scattering 176
Dilute ^{3}He–^{4}He mixtures 134
Dipole-locked vortices 244
Dipole-unlocked vortices 244
Dissipation 294
Distribution function 202
Doubly quantized vortex 274
Dynamics of defects 56

Early Universe 42
Energy gap 336
Experimental evidence 266
Extended corequake 13

Fast rotation 102
Fermi liquid parameters 206
Fractional statistics 35
Free surface 352
Future experiments 73

Galilean invariance 76
Gap anisotropy 90
Ginzburg–Landau theory 76
Gorkov Green function 158
Gradient expansion 102
Gyroscope 347

H↓ 129
^{3}He-A vortices 244
^{3}He–^{4}He solution 331
^{3}He–^{4}He solutions 102
^{3}He quasiparticles 304
^{4}He 121
High densities 129
High magnetic fields 274, 331
High-Q oscillator 340
Homogeneously precessing domain (HPD) 187, 196
Homotopy classes 56
Hydrodynamics 102

Internal symmetries 47
Intrinsic orbital angular momentum 83
Intrinsic orbital momentum in ^{3}He-A 106

Josephson effects 309
Josephson relation 347

Kinetic equations 202

Leggett equations 141
Levitation 340
Liquid crystals 56
Liquid ^{3}He 331
Low magnetic fields 244

Low temperatures 181, 206
Low-frequency oscillations 196
Low-temperature limit 304

Macroscopic objects 294
Magnet 340
Magnetic compression 129
Magnetic microspheres 340
Magnetic relaxation 187
Magnetic resonance 196
Magnetic-field dependence 336
Magnetic-field effects 206
Magnus force 1
Meissner effect 35
Mermin–Ho texture 274
Metastable state 160
Monopole structures 73
Monopoles 56

***n*-texture 149**
Nambu–Goldstone bosons 76
Nematics 56
Neutron matter 13
Neutron stars 1, 13, 24
Neutron-star cooling 13
NMR 83, 187
Nonequilibrium gradients 102
Nonlinear Raman scattering 219
Nonlinear acoustics 219
Nonlinear σ-model 280
Nonsymmetric textures 149
Normal ^{3}He 181
Nuclear forces 13
Nucleation of vortices 90, 168

Optical imaging 352
Order-parameter collective modes 219
Oscillating stars 24
Oscillation modes 102

$^3P_2$ superfluid 13
Pair breaking 294
Pair-breaking edge 206
Pair-breaking velocity 336
Parametric excitation 238
Particle/antiparticle pairs 76
Particle–hole symmetry 219
Phase slippage 309, 318
Phase slip center (PSC) 318
Pion condensate 13
Planar boojums 154
Polarized ^{3}He 331
Phase slip line (PSL) 318
Pulsar glitches 1, 13
Pulsed NMR 141

Quantized circulation 73
Quantum field theory 35
Quantum fluids 134
Quantum nucleation 76
Quasi-particle emission 294
Quasiclassical boundary condition 176
Quasiclassical theory 219
Quasiparticles 102

Random-phase approximation 35
Randomly oriented mirror model 176
Rapid melting of solid ^{3}He 331
Real squashing mode (RSQ) 238
Recombination 129
Relaxation 141
Rotating A phase 168
Rotating superfluids 102, 106, 352
Rotating ^{3}He 106, 160
Rotating ^{3}He-A 244, 262, 274
Rotating ^{3}He-B 90, 149, 154, 187

Singlet superfluidity 134
Soliton lattice 280
Solitons 24
Spin diffusion 202
Spin dynamics 141
Spin supercurrent 187, 202
Spin-polarized hydrogen 129
Spin-polarized solutions 134
Spin-1/2 fermions 280
Squashing mode 206
Superconducting quantum interference device (SQUID) 347
Standard Model 266
Star stability 24
Stycast 1266 181
Superconducting strings 47
Superconductors 340
Superfluid field theory 76
Superfluid film 280
Superfluid helium 347
Superfluid solution 134
Superfluid transition temperature 331
Superfluid vortices 318
Superfluid ^{3}He 73, 83, 158, 176, 206, 294, 318, 352
Superfluid ^{3}He-A 266, 280, 304
Superfluid ^{3}He-B 141, 187, 196, 202, 219, 238, 309, 336

Superfluidity of ^{3}He 134
Superfluids 340
Supersolid 121
Surface energy 154
Surface in ^{3}He 176
Surface pinning 106
Surface tension 168
Surface waves 196
Susceptibility 331
Symmetry-breaking phase transitions 56

Textural phase transition 149
Textures 141
Tilted magnetic field 154
Topological singularities 160
Topological transition 244
Transition temperature 134
Transport properties 304
Triplet pairing 134
Twisting oscillations 196
Two-dimensional ferromagnetism in ^{3}He 181
Two-phonon absorption 219, 238

Ultrasound 206, 244, 262

Vibrating objects in superfluid 294
Vibrating wire resonator 336
Vortex arrays 106
Vortex creep 1
Vortex drag 1
Vortex dynamics 1, 106
Vortex elasticity 106
Vortex formation 83
Vortex interaction 106
Vortex lattice 262
Vortex layer 160
Vortex mill 318
Vortex motion 106
Vortex nucleation 318
Vortex pinning 1
Vortex transition 244
Vortex unpinning 1
Vortex-cluster state 90
Vortex-free state 83, 90, 154
Vortices at A–B interface 168
Vortices in ^{3}He 42
Vorticity 76, 340

White dwarfs 24
Wigner–Seitz approximation 262

Zeeman splitting 238
Zero modes 47
Zero sound 219, 238, 262
Zero-point oscillations 121
Zero-temperature limit 336